

LDPC CODE AND ENCODER/DECODER REGARDING SAME

ABSTRACT OF THE DISCLOSURE

A joint code-encoder-decoder design approach and circuit architecture design for $(3,k)$ -regular LDPC coding system implementation. The joint design process relies on a high girth $(2,k)$ -regular LDPC code construction. The decoder realizes partly parallel decoding. The encoding scheme only contains multiplications between sparse matrices and vector and multiplication between a very small dense matrix and vector.